

**9<sup>th</sup> - 12<sup>th</sup> Grade Curriculum Requirements**

<b><u>Requirement</u></b>	<b><u>Description</u></b>	<b><u>What SEPMN Can Do</u></b>
I.C.	Use Technology and Mathematics to Improve Investigations and Communications.	<p>-Students will learn about a geographic information systems (GIS) database because all submitted data will be placed into this database. GIS products (views, tables, etc.) will be available on the SEPMN web site.</p> <p>- Students will be able to estimate the size of algae by using a compound microscope. Students will also be able to explain how measurements in metric units are used in reporting about algae and their blooms. Finally, students will be able to use the metric system and the appropriate equipment to make measurements of length. There are several mathematics exercises in the textbook <i>Algae: A Sourcebook for Teaching about Harmful Algal Blooms</i>.</p>
II.A.1.	Cells have particular structures that underlie their function. Inside the cell is a concentrated mixture of thousands of different molecules which form a variety of specialized structures that carry out such cell functions as energy production, transport of molecules, waste disposal, synthesis of new molecules, and the storage of genetic material.	Phytoplankton samples can be used to help further explain/compare the differences between prokaryotic and eukaryotic cells.
II.C.2.	Energy flows through ecosystems in one direction, from photosynthetic organisms to herbivores to carnivores and decomposers a. Trace the flow of energy through various trophic levels.	Phytoplankton can be used to explain food webs as well as the transfer of energy through trophic levels.
II.C.5.	Human beings live within the world's ecosystems. Increasingly, humans modify ecosystems as a result of population growth, technology, and consumption. Human destruction of habitats through direct harvesting, pollution atmospheric changes, and other factors is threatening current global stability, and if not addressed, ecosystems will be irreversibly affected. a. Identify events that led to awareness of environmental concerns such as fish kills, destruction of the ozone layer, global warming, and decline of the bald eagle	Some phytoplankton can become toxic and can be found in great abundance (blooms) when the environmental conditions are just right for them. This can lead to fish kills either by depletion of nutrients or direct attacks to fish from phytoplankton species.